

SPONSORS:

International Agency for Research on Cancer, France

Japanese Cancer Association, Tokyo.

Japanese Organizing Committee

IARC Secretariat:

H. Bartsch	Head, Programme of Environmental Carcinogens and Host Factors, Division of Environmental Carcinogenesis
I.K. O'Neill	Programme of Environmental Carcinogens and Host Factors
M. Castegnaro	Programme of Environmental Carcinogens and Host Factors
M.M. Cournier	Programme of Environmental Carcinogens and Host Factors

1003582241

MONDAY 28 SEPTEMBER

14.00 Welcoming address - H. Sugano, T. Otani, M. Okada

Opening address - J. Higginson

CHEMISTRY AND FORMATION

Chairman: M. Okada

14.30 0-1 NOCHIZUKI, Masataka, Anjo, T., Takeda, K., Suzuki, E.,
Sekiguchi, N., Huang, G.-E. & Okada, M.

Chemistry and mutagenicity of α -hydroxy nitrosamines

14.50 0-2 ROLLER, Peter, Slavin, B.W., Angeles, R.M. & Miller, J.R.

Mass spectral rearrangements of acyclic dialkyl nitrosamines;
N-nitrosomethyl-*N*-butylamine and analogs

15.10 0-3 MASUI, H., Nōse, K., Tanaka, A., Yamakawa, E. & Ohmori, H.

A novel oxidative degradation of *N*-nitrosamine via
electron transfer

15.30 0-4 WAINWRIGHT, T., Slack, P.T. & Long, D.E.

NDA precursors in malt

15.50 COFFEE BREAK

Chairman: G. Eisenbrand

16.10 0-5 OISHIMA, Hiroshi, Bérézat, J.C. & Bartsch, H.

Measurement of endogenous *N*-nitrosation in rats and
humans by monitoring urinary and faecal excretion of
N-nitrosamino acids

16.30 0-6 POLLOCK, J.R.A.

Nitrosation products from peptides

16.50 0-7 ROPER, Harald, Roper, S., Heyns, K. & Meyer, B.

N-Nitroso sugar amino acids

1003582242

TUESDAY 29 SEPTEMBER

CHEMISTRY AND FORMATION (continued)

Chairman: M. Archer

- (09.00) 0-9 CHALLIS, B.C., Fine, D.H., Goff, U., Hoffman, G. & Shaker, D.E.G.
Amine nitration and nitrosation by gaseous NO_2
- (09.20) 0-10 LOEPKY, Richard N., Tomasik, W., Outram, J.R. & Feicht, A.
Nitrosamine formation from ternary nitrogen compounds
- (09.40) 0-11 MICHEIDA, C.J. & Koenke, S.R.
O-Alkylation of nitrosamines; transalkylation of nitrosamines and formation of electrophilic intermediates
- (10.00) 0-12 KEEFER, L.K. & Hansen, T.J.
Primary amine use and other strategies for preventing human exposure to *N*-nitroso compounds: application to cutting fluids

10.20 COFFEE BREAK

ANALYSIS

Chairman: B. Challis

- (10.40) + 0-13 BAVIN, P.M.G., Darkin, D.W. & Viney, N.J.
Total nitroso compounds in gastric juice
- (11.00) 0-14 SAUL, R.E., Bruce, W.R. & Archer, H.C.
An analytical method for simple *N*-nitrosamides
- (11.20) 0-15 SIM, N.P., Seaman, S. & Teissier, L.
A rapid and sensitive method for the determination of nonvolatile *N*-nitroso compounds in foods and some recent data on the levels of volatile *N*-nitrosamines in dried foods and malt-based beverages

1003582243

- P-8 PIGNATELLI, Brigitte, Béréziat, J.C., O'Neill, I.K. & Bartsch, H.
Catalytic role of some phenolic substances in
endogenous formation of *N*-nitroso compounds
- P-9 LIJINSKY, William & Reuber, M.D.
Transnitrosation by nitrosamines *in vivo*
- P-10 GROENEN, P.J., Iuten, J.B., Dhont, J.H., de Cock-Bethbeder,
M.W., Prins, L.A. & Vreeken, J.W.
Formation of volatile *N*-nitrosamines from food products,
especially fish, under simulated gastric conditions
- P-11 ARCHER, Michael C., Lee, L.-j. & Bruce, R.
Analysis and formation of nitrosamines in the human intestine
- P-12 SPIEGELHALDER, B., Eisenbrand, G. & Preussmann, R.
Urinary excretion of nitrosamines
- P-13 NEBELIN, Eike, Autrup, H., Christensen, B. & Blomkvist, G.
Detection of metabolites of *N*-nitrosopyrrolidine and
N-nitrosomethylethylamine in cultures of human bladder
epithelial cells of normal origin

Posters related to Occurrence

- P-14 FAZIO, Thomas & Havery, D.C.
Volatile *N*-nitrosamines in direct flame dried processed foods
- P-15 KARLOWSKI, Kazimierz
Occurrence of *N*-nitrosamines in food products
- P-16 AIDJANOV, M.M. & Sharmanov, T.Sh.
Nitrosamines and their precursors in some Kazakh foodstuffs
- P-17 GOLOVNAYA, R.V., Zharavleva, I.L., Terenina, M.B.,
Nesmeyanov, A.N., Vlasenko, N.L. & Il'inskiy, A.P.
Amines in soil as possible precursors of *N*-nitroso compounds

1003582244

17.10

0-8

WISHNOK, John S. & Woolworth, V.S.

The effects of molecular structure on the passage
of nitrosamines through animal membranes

18.00

WELCOMING MIXER AT KOMABA EMINENCE

1003582245

11.40

0-16. IOFFMANN, Dietrich, Brunnenmann, K.D., Rivenson, A. & Hecht, S.S.

N-Nitrosodiethanolamine: analysis, formation in tobacco products and carcinogenicity in Syrian golden hamsters

12:00

LUNCH

POSTER DISPLAY AND PLENARY DISCUSSION

Chairman: S.H. Tannenbaum

Rapporteurs: S.S. Hecht, B. Spiegelhalder

14.40-16.10 Poster presentation

16.10 COFFEE BREAK

16.30-18.00 Discussion on posters

Posters related to Chemistry and Formation

P-1 QUALIS, B.C. & Li, B.F.

Formation of *N*-nitrosamines and *N*-nitramines by photolysis

P-2 HANSEN, Thomsen J., Croisy, A.F. & Keefer, L.K.

N-Nitrosation of secondary amines by nitric oxide via the "Drago Complex"

P-3 TOZAWA, Harumi

Effect of alkalization on the nitrosation reaction occurring in a dimethylamine-nitrite mixture especially in the presence of reductants

P-4 LOEPCKY, Richard N. & Outram, J.O.

A biochemical retroaldol cleavage of β -hydroxynitrosamines

P-5 KODAMA, M., Saito, H. & Yamazumi, Z.

Formation of alkylureas in the environment

P-6 MANGINO, M.M., Libbey, L.M. & Scanlan, R.A.

Nitrosation of *N*-methyltyramine and *N*-methyl-3-aminomethylindole, two barley malt alkaloids

P-7 UOZUMI, M., Kusumoto, S., Kimura, T., Nakamura, A. & Nakajima, T.

Formation of nitrosodimethylamine by NO_x exposure in rats and rabbits pretreated with aminopyrine

1003582246

WEDNESDAY 30 SEPTEMBER

OCCURRENCE IN ENVIRONMENTAL AND BIOLOGICAL SAMPLES

Chairman: T. Fazio

0.49 $\mu\text{g}/\text{m}^3$

- 09.00 0-17 BOCOVSKI, P., Kann, J., Rooma, M., Tauts, O. & Uibu, J.
Research on environmental *N*-nitroso compounds in the USSR
- 09.20 0-18 KAWABATA, T., Matsui, M., Ishibashi, T., Hamano, M. & Ino, M.
Formation of *N*-nitroso compounds during cooking of Japanese food
- 09.40 0-19 TOMITA, I., Nakamura, Y. & Tanaka, H.
Mutagenicity of various Japanese foodstuffs treated with nitrite
- 10.00 0-20 van BROEKHOVEN, L.W. & Davies, J.A.R.
N-Nitrosamines in grass silage
- 10.20 COFFEE BREAK

Chairman: T. Kawabata

- 10.40 0-21 SPIEGELHALDER, B. & Preussmann, R.
Nitrosamines and rubber
- 11.00 0-22 FAJEN, John, Rounbehler, D.P. & Fine, D.H.
Summary report on *N*-nitrosamines in the factory environment
- 11.20 0-23 WALTERS, C.E., Smith, P.L.R., Reed, P.I., Haines, K. & House, F.R.
N-Nitroso compounds in gastric juice and their relationship to gastroduodenal disease
- 11.40 0-24 ELLEN, G., Schuller, P.L., Bruijns, E., Froeling, P.G.A.M. & Baadenhuijsen, H.
Volatile *N*-nitrosamines, nitrate and nitrite in urine and saliva of healthy volunteers after administration of large amounts of nitrate

1003582247

12.00

0-25 FINE, D.H., Challis, B.C., Hartman, P. & Van Ryzin, J.

Comparison of human exposure and risk assessment of nitrosamines from endogenous and exogenous sources

12.20

LUNCH

POSTER DISPLAY AND PLENARY DISCUSSION

Chairman: W. Lijinsky

Rapporteurs: P. Groenen, M. Börzsönyi

14.00 -15.30 Poster presentation

15.30 COFFEE BREAK

15.50 -17.20 Discussion on posters

Poster related to Analysis

P-18

ROUNBEHLER, D.P. & Fine, D.H.

Specific detection of amines and other nitrogen containing compounds with a modified TEA analyzer

Posters related to Safety

P-19 WALTERS, C.L.

Destruction of *N*-nitrosamides in laboratory waste

P-20

CASTEGNARO, Marcel, Michelon, J. & Walker, E.A.

Some detoxification methods for nitrosamine contaminated wastes

P-21 SANSONE, E.B., Lunn, G., Jonas, L.A. & Keefer, L.K.

Approaches to hazard control in the carcinogenesis laboratory: *N*-nitroso compounds

P-22 JØRGENSEN, K.A. & Lawesson, S.O.

Destruction of *N*-nitrosamides with a P,S-reagent and attempts to nitrosate thioamides

1003582248

Posters related to Biological Effects

- P-23 POBERUFOID, M.B., Deboyser, D., Goethals, F. & Krack, G.
Biochemical mechanisms of toxicity of nitrosopyrrolidine on isolated hepatocytes
- P-24 EISENBRAND, G., Heydt, G. & Preussmann, R.
Metabolism of isomeric *N*-nitroso-*N*-methylaminopyridines by rat liver microsomes.
- P-25 JANZOWSKI, C., Gottfried, J., Pool, B.L., Eisenbrand, G. & Preussmann, R.
In vitro metabolism of fluorinated dialkyl nitrosamines
- P-26 SAKAI, Ayako & Tanimura, A.
Mutagenicity of *N*-nitroso compounds formed by the reaction of sulpyrine with nitrite; effect of cysteine and its derivatives
- P-27 INOJ, Naomichi, Nishi, Y. & Tanimura, A.
Induction of 8-azaguanine-resistant mutation and neoplastic transformation of hamster embryonic cells by coadministration of sodium nitrite and aminopyrine
- P-28 RAO, T.K., Epler, J.L. & Lijinsky, W.
Structure activity studies with *N*-nitrosamines using *Salmonella typhimurium* and *Escherichia coli*
- P-29 PREUSSMANN, R., Habs, M., Schmähl, D. & Eisenbrand, G.
Dose-response study on the carcinogenicity of *N*-nitroso-diethanolamine (NDEIA) in male Sprague-Dawley rats
- P-30 KONISHI, Yoichi, Denda, A., Takahashi, S., Maruyama, H., Yokose, Y., Mori, Y., Matsui, M. & Toyoshi, K.
Organotropic effect of *N*-bis(2-hydroxypropyl)nitrosamine: production of lung adenocarcinoma by a single intra-peritoneal injection in rats.
- P-31 HOFFMANN, Dietrich, Adams, J.D., Brunnemann, K.D., Rivenson, A. & Hecht, S.S.
Tobacco specific nitrosamines: occurrence and bioassays

1003582249

P-32 OHGAKI, Hiroko, Kawachi, T., Matsukura, N., Morino, K.
& Sugimura, T.

Genetic control of sensitivity of gastroduodenal carcinogenesis
in rats by *N*-methyl-*N'*-nitro-*N*-nitrosoguanidine

P-33 FONG, L.Y.Y., Lee, J.S.K., Chan, W.C. & Newberne, P.M.

Zinc deficiency and the induction of esophageal tumors
in rats by methylbenzylamine and sodium nitrite

P-34 MCCOY, G. David, Katayama, S., Young, R., Wyatt, M. & Hecht, S.S.

Influence of chronic ethanol consumption on the metabolism
and carcinogenicity of tobacco related nitrosamines

P-35 BÖRZSÖNYI, Matias, Torok, G., Pinter, A., Surjan, A.,
Csik, M. & Bar, V.

Inhibition of the carcinogenic effect of nitrosomorpholine
formed *in vivo* by an antioxidant

EVENING

BANQUET

T S OSDENE

DEC 28 1981

1003582250

THURSDAY 1 OCTOBER

BIOLOGICAL EFFECTS, CARCINOGENIC

Chairman: R. Preussmann

- 09.00 0-26 TANAKA, Akira & Watanabe, M.
Metabolism of 1-propyl-1-nitrosourea (PMU) in rats
- 09.20 0-27 SINGER, George M., Lijinsky, W., Buettner, L. & McClusky, G.A.
Metabolism of nitrosomethyl-*n*-alkylamines in Fischer rats
- 09.40 0-28 HECHEM, S.S., Young, R., Rivenson, A. & Hoffmann, D.
On the metabolic activation of *N*-nitrosomorpholine and
N'-nitrosomnicotine: effects of deuterium substitution.
- 10.00 0-29 ITO, Nobuyuki, Fukushima, S., Tsuda, H., Shirai, T. & Arai, M.
Dose-response changes in rats treated with *N*-nitroso compounds
- 10.20 0-30 MAEKAWA, A., Takahashi, M., Kurokawa, Y., Kokubo, T., Ogiu, T.,
Mochizuki, M., Anjo, T., Okada, M. & the late Odashima, S.
Carcinogenicity of α -oxidized nitrosamines (α -acetoxy,
 α -hydroperoxy, and α -oxo nitrosamines) in F-344 rats

10.40 COFFEE BREAK

Chairman: P. Bogovski

- 11.00 0-31 LIJINSKY, William
Chemical structural effects in carcinogenesis by nitrosamines
- 11.20 0-32 GRICUTE, Iaima, Castegnaro, M. & Béréziat, J.C.
Influence of ethyl alcohol on the carcinogenic activity
of *N*-nitrosodi-*n*-propylamine (NDPA)
- 11.40 0-33 SCHWENKBERG, F., Weissenberger, I. & Burkle, V.
Effect of disulfiram on the carcinogenicity of nitrosamines

1003582251

12.00 0-34 SHARMANOV, T.Sh. & Aidjanov, M.M.

Effect of amino acids imbalance and ascorbic acid deficiency
on carcinogenic action of *N*-nitrosopiperidine in guinea pigs

12.20 LUNCH

BIOLOGICAL EFFECTS, GENOTOXIC

Chairmen: T. Sugimura, T. Kawachi

(14.00) 0-35 SHUKER, D., Piatek, B. & Tannenbaum, S.R.

N-Nitrosamides of natural origin

(14.20) 0-36 WAKABAYASHI, Keiji, Nagao, M., Kawachi, T. & Sugimura, T.

Mechanism of appearance of mutagenicity of
diphenylnitrosamine with norharman

(14.40) 0-37 NRGISHI, Tomoe, Ohara, Y. & Hayatsu, H.

A sensitive assay for mutagenic activity of *N*-nitrosamines
and its use for detection of modulators of the mutagenicity

(15.00) 0-38 WARTSCH, Helmut, Milaveille, C., Terracini, B., Tomatis, L.,
Brun, G. & Odlet, B.

Quantitative comparisons between carcinogenicity,
mutagenicity and electrophilicity of direct-acting
N-nitroso compounds and other alkylating agents

15.20 CLOSING ADDRESS - *T. Sugimura*

1003582252